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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,987	07/28/2003	Rupeng Zhao	BSW.006C	4253
7590 03/01/2004			EXAMINER	
VOLENTINE FRANCOS, P.L.L.C.			COOKE, COLLEEN P	
SUITE 150			ART UNIT	
12200 SUNRISE VALLEY DRIVE			PAPER NUMBER	
RESTON, VA 20191			1754	

DATE MAILED: 03/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,987

Applicant(s)

ZHAO, RUPENG

Examiner

Colleen P Cooke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/661,254.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/28/03</u> . | 6) <input type="checkbox"/> Other: _____ |

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Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 and 6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 6, 13, and 19 of copending Application No. 10/617,389. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following.

Claim 1 is not patentably distinct over claims 1 or 13 because instant claim 1 does not explicitly require two metal tapes, but merely provides the provision that *if* there are two tapes

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they differ in strength. In addition, instant claim 1 requires “at least one” superconducting tape while claims 1 and 13 refer to having at least one metal tape bonded to an exposed surface of a multiplicity or plurality of superconducting tapes and this inherently includes “at least one” superconducting tape with a metal tape bonded thereto. Instant claim 1 is anticipated by either of claims 1 or 13 of the copending application.

Claim 2 is not patentably distinct over claims 1 or 13 because instant claim 2 does not explicitly require two metal tapes, but merely provides the provision that *if* there are two tapes they differ in strength. In addition, instant claim 2 requires “at least one” superconducting tape while claims 1 and 13 refer to having at least one metal tape bonded to an exposed surface of a multiplicity or plurality of superconducting tapes and this inherently includes “at least one” superconducting tape with a metal tape bonded thereto. Instant claim 2 is anticipated by either of claims 1 or 13 of the copending application.

Claim 3 is not patentably distinct over claims 1 or 13 because instant claim 3 does not explicitly require two metal tapes, but merely provides the provision that *if* there are two tapes they differ in strength. In addition, instant claim 3 requires “at least one” superconducting tape while claims 1 and 13 refer to having at least one metal tape bonded to an exposed surface of a multiplicity or plurality of superconducting tapes and this inherently includes “at least one” superconducting tape with a metal tape bonded thereto. Instant claim 3 is anticipated by either of claims 1 or 13 of the copending application.

Claim 6 is not patentably distinct over claims 6 or 19 because instant claim 6 does not explicitly require two metal tapes, but merely provides the provision that *if* there are two tapes they differ in strength. In addition, instant claim 6 requires “at least one” superconducting tape

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while claims 6 and 19 refer to having at least one metal tape bonded to an exposed surface of a multiplicity or plurality of superconducting tapes and this inherently includes "at least one" superconducting tape with a metal tape bonded thereto. Instant claim 6 is anticipated by either of claims 6 or 19 of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-6 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 and 20-24 of U.S. Patent No. 6,600,939.

Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following.

Claim 1 is not patentably distinct over claim 1 because instant claim 1 requires "at least one" superconducting tape while patented claim 1 refers to having at least one metal tape bonded to an exposed surface of a multiplicity or plurality of superconducting tapes and this inherently includes "at least one" superconducting tape with a metal tape bonded thereto. Also, patented claim 1 includes additional limitations not found in instant claim 1. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 1 is anticipated by claim 1 of the patent.

Claim 2 is not patentably distinct over claim 2 because patented claim 2 includes additional limitations not found in instant claim 2. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 2 is anticipated by claim 2 of the patent.

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Claim 3 is not patentably distinct over claim 3 because patented claim 3 includes additional limitations not found in instant claim 3. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 3 is anticipated by claim 3 of the patent.

Claim 4 is not patentably distinct over claim 4 because patented claim 4 includes additional limitations not found in instant claim 4. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 4 is anticipated by claim 4 of the patent.

Claim 5 is not patentably distinct over claim 5 because patented claim 5 includes additional limitations not found in instant claim 5. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 5 is anticipated by claim 5 of the patent.

Claim 6 is not patentably distinct over claim 6 because patented claim 6 includes additional limitations not found in instant claim 6. However, it is noted that the instant claims use "comprising" language and therefore are open to additional features. Instant claim 6 is anticipated by claim 6 of the patent.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4-6, and 13-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Gamble et al. (5801124).

Regarding claims 1, 2, 3, and 6 Gamble et al. teaches a composite superconducting tape (see Figures 1 and 4) which has at least two parallel stacks of superconducting tapes (13 and 44 respectively) and a metal tape bonded to the stacks (15 and 45 respectively), where the metal tape may be a silver tape of 0.1mm thickness (see Example 2, Column 11, lines 56-58). Although Gamble et al. teaches that the tapes may be made by any process (Column 9, line 37) and that the metal tape is mechanically coupled (Column 6, lines 50-51), Gamble et al. does not teach that the composite is made by diffusion bonding. This process limitation does not appear to patentably distinguish the product as claimed over the product of Gamble et al. and so they are believed to be substantially the same.

Regarding claim 5, Gamble et al. teaches the above and further (in Figure 4) that in addition to a first metal tape (45), there may also be a second metal tape (not numbered) bonded to the opposing surface of the superconducting tapes (41). Gamble et al. teaches that the two tapes may be of the same material but different thicknesses (see claim 19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gamble et al. (5,801,124).

Gamble et al. teaches the superconducting tape as described above with respect to claim 1 and further (in Figure 4) that in addition to a first metal tape (45), there may also be a second metal tape (not numbered) bonded to the opposing surface of the superconducting tapes (41).

Although Gamble et al. does not teach specifically an example or embodiment having two metal tapes of different compositions, Gamble et al. teaches that the two metal tapes are selected so as to produce a neutral axis of the composite tape displaced according to the relative thickness and elastic modulus and also to have a particular yield stress (Column 8, lines 43-64). Gamble et al. further describes the selection of tape material and thickness with respect to several mechanical properties, including the elastic modulus which is a material property and the tensile strain of the metal tape which is a function of the tensile strength of the tape (Column 9, lines 39-64). Gamble et al. specifically refers to choosing the thickness and material of the first tape in relation to the thickness and material of the second in order to achieve the desired displaced neutral axis (Column 9, lines 39-45).

It would be obvious from these teachings that the displaced neutral axis that Gamble et al. desires would be achieved by two tapes of different materials. In addition, it would be obvious that tapes having different elastic moduli, as taught by Gamble et al., would be different materials and thus have different strengths that would achieve the displaced neutral axis that Gamble et al. is trying to achieve.

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Conclusion

Any inquiry concerning this or earlier communications from the examiner should be directed to Colleen Cooke, whose telephone number is 571-272-1170. She can normally be reached Monday-Thursday from 7:15-5:45pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Stan Silverman, can be reached at 571-272-1358. The official fax number for the organization where this application or proceeding is assigned is 703-872-9306. The unofficial fax number for this examiner is 703-746-3048.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is 703-308-0661.

Colleen P. Cooke 2/20/04

Colleen P Cooke
Examiner
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